

WHAT IS CLAIMED IS:

1. A gateway for communicating telecommunication information, comprising:

5 a telecommunication interface module operable to receive first telecommunication information for a first subscriber and second telecommunication information for a second subscriber from a telecommunication network; and

10 one or more packetization modules operable to generate first data packets for communicating the first telecommunication information according to a first data communication protocol associated with the first subscriber and to generate second data packets for communicating the second telecommunication information according to a second data communication protocol associated with the second subscriber.

2. The gateway of Claim 1, wherein:

15 each of a plurality of subscribers is associated with a separate telecommunication interface; and

20 the telecommunication interface module is further operable to identify the first subscriber according to a telecommunication interface from which the telecommunication interface module receives the first telecommunication information.

3. The gateway of Claim 2, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

25 4. The gateway of Claim 1, wherein the telecommunication interface module is further operable to identify the first subscriber according to a subscriber identifier received with the first telecommunication information.

30 5. The gateway of Claim 4, wherein the subscriber identifier is a name, address, or telephone number.

5 6. The gateway of Claim 1, further comprising one or more compression modules operable to compress the first telecommunication information using a first compression algorithm associated with the first subscriber and to compress the second telecommunication information using a second compression algorithm associated with the second subscriber.

10 7. The gateway of Claim 6, further comprising a memory operable to store a first subscriber profile associating the first subscriber with the first compression algorithm and the first data communication protocol and a second subscriber profile associating the second subscriber with the second compression algorithm and the second data communication protocol.

15 8. The gateway of Claim 6, further comprising a management module operable to select, for the first subscriber, a compression module supporting the first compression algorithm and a packetization module supporting the first data communication protocol.

20 9. The gateway of Claim 6, further comprising a management module operable to select a compression module supporting the first compression algorithm, to select a packetization module supporting the first data communication protocol, and to assign at least one time slot of a time division multiplexing (TDM) bus to communicate the first telecommunication information to the selected compression module and the selected packetization module.

25 10. The gateway of Claim 1, further comprising one or more network interface modules operable to communicate the first data packets using a first data link associated with the first subscriber and to communicate the second data packets using a second data link associated with the second subscriber.

11. The gateway of Claim 10, wherein:

the first data link communicates the first data packets to a digital subscriber line access multiplexer (DSLAM); and

the second data link communicates the second data packets to a cable modem termination system (CMTS) or a base station controller (BSC).

12. The gateway of Claim 1, further comprising one or more echo cancellation modules operable to perform echo cancellation on the first telecommunication information but not the second telecommunication information.

13. The gateway of Claim 1, further comprising:
a time division multiplexing (TDM) bus coupled to the packetization modules and operable to communicate the first and second telecommunication information to the packetization modules using one or more time slots; and
a data packet bus coupled to the packetization modules and operable to communicate the first and second data packets from the packetization modules.

14. The gateway of Claim 1, further comprising an IEEE 802.6 bus coupled to the packetization modules, the IEEE 802.6 bus operable to communicate the first and second telecommunication information to the packetization modules and to communicate the first and second data packets from the packetization modules.

15. A method for communicating telecommunication information, comprising:

receiving first telecommunication information for a first subscriber from a telecommunication network;

5 generating first data packets for communicating the first telecommunication information according to a first data communication protocol associated with the first subscriber;

receiving second telecommunication information for a second subscriber from the telecommunication network; and

10 generating second data packets for communicating the second telecommunication information according to a second data communication protocol associated with the second subscriber.

16. The method of Claim 15, further comprising:

15 associating each of a plurality of subscribers with a separate telecommunication interface;

receiving the first telecommunication from a first telecommunication interface;

20 identifying the first subscriber associated with the first telecommunication interface;

receiving the second telecommunication from a second telecommunication interface; and

25 identifying the second subscriber associated with the second telecommunication interface.

17. The method of Claim 16, wherein the first and second telecommunication interfaces are unbundled analog lines.

30 18. The method of Claim 15, further comprising identifying the first subscriber according to a subscriber identifier received with the first telecommunication information.

19. The method of Claim 18, wherein the subscriber identifier is a name, address, or telephone number.

5 20. The method of Claim 15, further comprising:
compressing the first telecommunication information using a first compression algorithm associated with the first subscriber; and
compressing the second telecommunication information using a second compression algorithm associated with the second subscriber.

10 21. The method of Claim 20, further comprising:
storing a first subscriber profile associating the first subscriber with the first compression algorithm and the first data communication protocol; and
storing a second subscriber profile associating the second subscriber with the
15 second compression algorithm and the second data communication protocol.

20 22. The method of Claim 20, further comprising:
selecting a compression module supporting the first compression algorithm to compress the first telecommunication information; and
selecting a packetization module supporting the first data communication protocol to generate the first data packets.

25 23. The method of Claim 20, further comprising:
selecting a compression module supporting the first compression algorithm;
selecting a packetization module supporting the first data communication protocol; and
30 assigning one or more time slots in a time division multiplexing (TDM) bus to communicate the first telecommunication information to the selected compression module and the selected packetization module.

24. The method of Claim 15, further comprising:
communicating the first data packets using a first data link associated with the
first subscriber; and
communicating the second data packets using a second data link associated
with the second subscriber.

25. The method of Claim 24, further comprising:
communicating the first data packets to a digital subscriber line multiplexer
(DSLAM) using the first data link; and
communicating the second data packets to a cable modem termination system
(CMTS) or a base station controller (BSC) using the second data link.

26. The method of Claim 15, further comprising:
performing echo cancellation on the first telecommunication information; and
bypassing echo cancellation for the second telecommunication information.

27. The method of Claim 15, further comprising:
communicating the first telecommunication information to a packetization
module supporting the first data communication protocol using a time division
multiplexing (TDM) bus; and
communicating the first data packets from the packetization module using a
data packet bus.

28. The method of Claim 15, further comprising:
communicating the first telecommunication information to a packetization
module supporting the first data communication protocol using an IEEE 802.6 bus;
and
communicating the first data packets from the packetization module using the
IEEE 802.6 bus.

29. The method of Claim 15, further comprising:

communicating the first data packets to a digital subscriber line access multiplexer (DSLAM) using the first data communication protocol;

communicating the first data packets from the DSLAM to an integrated access device (IAD) using a digital subscriber line;

communicating the second data packets to a cable modem termination system (CMTS) using the second data communication protocol; and

communicating the second data packets from the CMTS to a media terminal adapter (MTA) using a cable link.

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30. The method of Claim 15, further comprising:

communicating the first data packets to a digital subscriber line access multiplexer (DSLAM) using the first data communication protocol;

communicating the first data packets from the DSLAM to an integrated access device (IAD) using a digital subscriber line;

communicating the second data packets to a base station controller (BSC) using the second data communication protocol; and

communicating the second data packets from the BSC to a wireless network interface unit (WNIU) using a wireless link.

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31. The method of Claim 15, further comprising:

communicating the first data packets to a cable modem termination system (CMTS) using the first data communication protocol;

communicating the first data packets from the CMTS to a media terminal adapter (MTA) using a cable link;

communicating the second data packets to a base station controller (BSC) using the second data communication protocol; and

communicating the second data packets from the BSC to a wireless network interface unit (WNIU) using a wireless link.

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32. A system for communicating telecommunication information, comprising:

a memory operable to store subscriber profiles associating each of a plurality of subscribers with a data communication protocol;

5 a telecommunication interface module operable to receive telecommunication information for a subscriber from a telecommunication network; and

packetization module operable to generate data packets communicating the telecommunication information according to a data communication protocol associated with the subscriber.

10 33. The system of Claim 32, wherein:

the subscriber profiles associate each of the subscribers with a separate telecommunication interface; and

15 the telecommunication interface module is further operable to identify the subscriber according to a telecommunication interface from which the telecommunication interface module receives the telecommunication information.

20 34. The system of Claim 33, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

25 35. The system of Claim 32, wherein the telecommunication interface module is further operable to receive a subscriber identifier with the telecommunication information and to identify the subscriber according to the subscriber identifier.

36. The system of Claim 35, wherein the subscriber identifier is a name, address, or telephone number.

37. The system of Claim 32, further comprising:
a compression module operable to compress the telecommunication
information using a compression algorithm associated with the subscriber; and
wherein the subscriber profiles associate each of the subscribers with a
compression algorithm.

38. The system of Claim 32, further comprising:
a network interface module operable to communicate the data packets using a
data link associated with the subscriber; and
wherein the subscriber profiles associate each of the subscribers with a data
link.

39. The system of Claim 32, further comprising an echo cancellation
module operable to perform echo cancellation on the telecommunication information
according to whether the subscriber's profile indicates that the echo cancellation
module should perform echo cancellation on the subscriber's telecommunication
information.

40. The system of Claim 32, further comprising:
a time division multiplexing (TDM) bus coupled to the packetization module
and operable to communicate the telecommunication information to the packetization
module using one or more time slots; and
a data packet bus coupled to the packetization module and operable to
communicate the data packets from the packetization module.

41. The system of Claim 32, further comprising an IEEE 802.6 bus
coupled to the packetization module, the IEEE 802.6 bus operable to communicate the
telecommunication information to the packetization module and to communicate the
data packets from the packetization module.

42. The system of Claim 32, further comprising a management module operable to select the packetization module from a plurality of packetization modules according to the data communication protocol associated with the subscriber and to assign one or more time slots in a time division multiplexing (TDM) bus to communicate the telecommunication information to the selected packetization module.

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43. A method for communicating telecommunication information, comprising:

associating each of a plurality of subscribers with a data communication protocol;

5 receiving telecommunication information for a subscriber from a telecommunication network; and

generating data packets communicating the telecommunication information according to a data communication protocol associated with the subscriber.

44. The method of Claim 43, further comprising:

associating each of the subscribers with a separate telecommunication interface;

receiving the telecommunication information from a telecommunication interface; and

15 identifying the subscriber associated with the telecommunication interface.

45. The method of Claim 44, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

46. The method of Claim 43, further comprising:

receiving a subscriber identifier with the telecommunication information; and identifying the subscriber according to the subscriber identifier.

47. The method of Claim 46, wherein the subscriber identifier is a name, address, or telephone number.

48. The method of Claim 43, further comprising:

associating each of the subscribers with a compression algorithm; and

compressing the telecommunication information using a compression algorithm associated with the subscriber.

49. The method of Claim 43, further comprising:
associating each of the subscribers with a data link; and
communicating the data packets using a data link associated with the
subscriber.

50. The method of Claim 43, further comprising:
storing subscriber profiles indicating whether to perform echo cancellation on
each subscriber's telecommunication; and
performing echo cancellation on the telecommunication information according
to the subscriber's stored profile.

51. The method of Claim 43, further comprising:
communicating the telecommunication information to a packetization module
supporting the subscriber's associated data communication protocol using a time
division multiplexing (TDM) bus; and
communicating the data packets from the packetization module using a data
packet bus.

52. The method of Claim 43, further comprising:
communicating the telecommunication information to a packetization module
supporting the subscriber's associated data communication protocol using an IEEE
802.6 bus; and
communicating the data packets from the packetization module using the
IEEE 802.6 bus.

53. The method of Claim 43, further comprising:
selecting a packetization module supporting the data communication protocol
associated with the subscriber; and
assigning one or more time slots in a time division multiplexing (TDM) bus to
communicate the telecommunication information to the selected packetization
module.

54. A system for communicating telecommunication information, comprising:

5 a gateway operable to associate each of a plurality of subscribers with a data communication protocol, to receive telecommunication information for subscribers from a telecommunication network, and to generate data packets for communicating each subscriber's telecommunication information according to the data communication protocol associated with each subscriber;

10 a digital subscriber line access multiplexer (DSLAM) operable to communicate at least some of the data packets generated by the gateway to an integrated access device (IAD) using a digital subscriber line; and

a cable modem termination system (CMTS) operable to communicate at least some of the data packets generated by the gateway to a media terminal adapter (MTA) using a cable link.

15 55. The system of Claim 54, wherein the gateway generates data packets for communication to the DSLAM according to a first data communication protocol and generates data packets for communication to the CMTS according to a second data communication protocol.

20 56. The system of Claim 54, further comprising a base station controller (BSC) operable to communicate at least some of the data packets generated by the gateway to a wireless network interface unit (WNIU) using a wireless link.

25 57. The system of Claim 56, wherein the gateway generates data packets for communication to the DSLAM according to a first data communication protocol and generates data packets for communication to the BSC according to a second data communication protocol.

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